

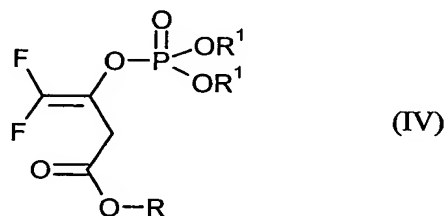
Method for the preparation of alkyl esters of difluoroacetoacetate

Summary

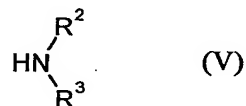
The present invention relates to a three-step method for the preparation of alkyl esters of 4,4-difluoroacetoacetic acid in which in the first step alkyl esters of 4-chloro-4,4-difluoroacetic acid are reacted with trialkylphosphites of structure (III)



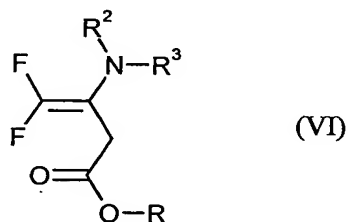
in which R^1 stands for $\text{C}_1\text{-C}_4\text{-alkyl}$, whereby the residues R^1 can in each case be the same or different, to form alkyl phosphonates of structure (IV)



which in the next step are reacted with an amine of structure (V),



in which R^2 and R^3 independent of each other stand for hydrogen or $\text{C}_1\text{-C}_4\text{-alkyl}$ or together for $-\text{CH}_2\text{-CH}_2\text{-O-CH}_2\text{-CH}_2-$, to form enamines of structure (VI),



in which R^2 and R^3 have the meanings described above, which in the third step are hydrolysed in the presence of an acid.